



## In February 11, 1808: Anthracite coal was first burned & discovered as a heating fuel

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### General Note

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Anthracite is a hard natural coal that burns slowly and gives intense heat. It is a hard, compact variety of mineral coal that has a high lustre. It has the highest carbon count and contains the fewest impurities of all coals, despite its lower calorific content. Anthracite coal is the highest of the metamorphic rank, in which the carbon content is between 92% and 98%. Anthracite ignites with difficulty and burns with a short, blue, and smokeless flame. Anthracite is similar in appearance to the mineraloid jet and is sometimes used as a jet imitation. It differs from ordinary bituminous coal by its greater hardness. Its higher relative density is 1.3-1.4. It is often semi-metallic with a mildly brown reflection. Anthracite coal may be considered to be a transition stage between ordinary bituminous coal and graphite, produced by the more or less complete elimination of the volatile constituents of the former; and it is found most abundantly in areas that have been subjected to considerable earth-movements, such as the flanks of great mountain ranges.

Anthracite was first experimentally burned as a residential heating fuel in the USA on February 11, 1808, by Judge Jesse Fell in Wilkes-Barre, Pennsylvania, on an open grate in a fireplace. In the spring of 1808, John and Abijah Smith shipped the first commercially-mined load of anthracite down the Susquehanna River from Plymouth, Pennsylvania, marking the birth of commercial anthracite mining in the United States. From that first mine, production rose to an all-time high of over 100 million tons in 1917. Between the late 1800s and the 1950s, anthracite was the most popular fuel for heating both homes and businesses in the US. Eventually heating oil and then natural gas replaced anthracite as the fuel of choice.

The principal use of anthracite today is for a domestic fuel in either hand-fired stoves or automatic stoker furnaces. It delivers high energy per its weight and burns cleanly with little soot, making it ideal for this purpose. Its high value makes it prohibitively expensive for power plant use. It is an authorized fuel in terms of the United Kingdom's Clean Air Act 1993, meaning that it can be used within a designated Smoke Control Area such as the central London boroughs. Most Chinese production is of standard-grade anthracite, which is used in power generation. Increased demand in China has made that country into a net importer of the fuel, mostly from Vietnam, another major producer of anthracite for power generation, although increasing domestic consumption in Vietnam means that exports may be scaled back.

Anthracite is classified into three grades, depending on its carbon content. Standard grade is used as a domestic fuel and in industrial power-generation. The rarer higher grades of anthracite are purer i.e., they have higher carbon content – and are used in steel-making and other segments of the metallurgical industries. As petroleum and natural gas grow more expensive, anthracite coal is growing more important as an energy source for an energy-hungry country.